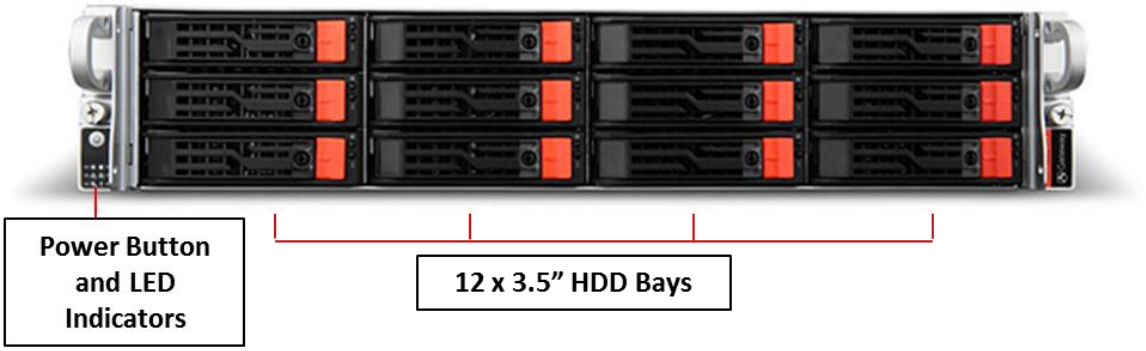
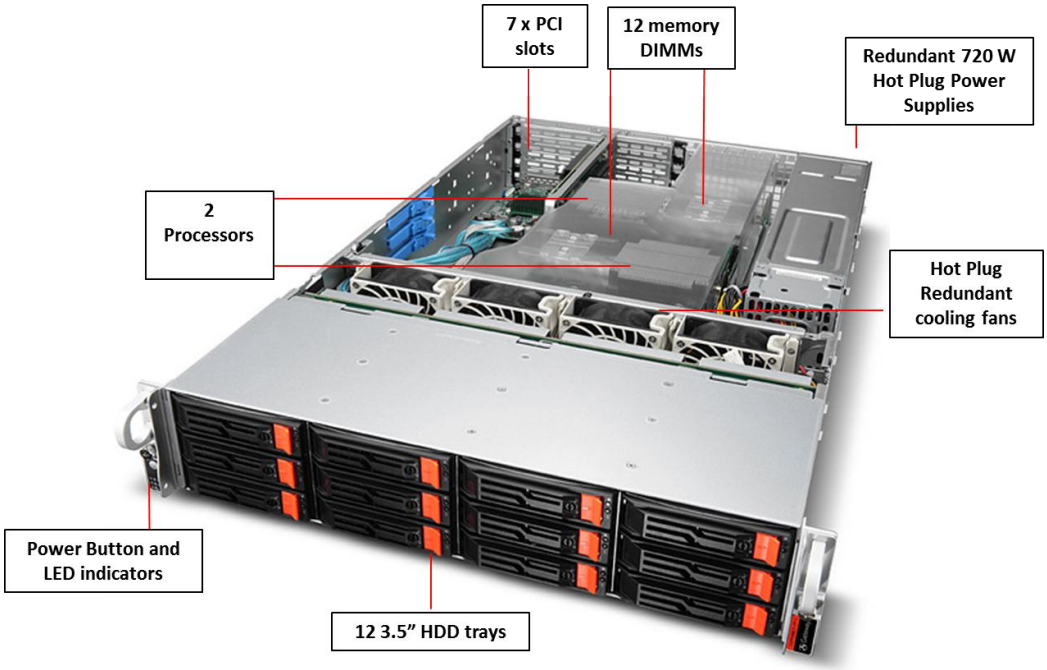
AR180 F1 Product Overview

The AR180 F1 is a dual socket 2U server delivering solid performance, scale-up flexibility, and optimized storage capacity. Comprehensive management utilities and high-efficiency components make this rack server a great, cost-effective solution for clustering operations and growing businesses.

Product Front view

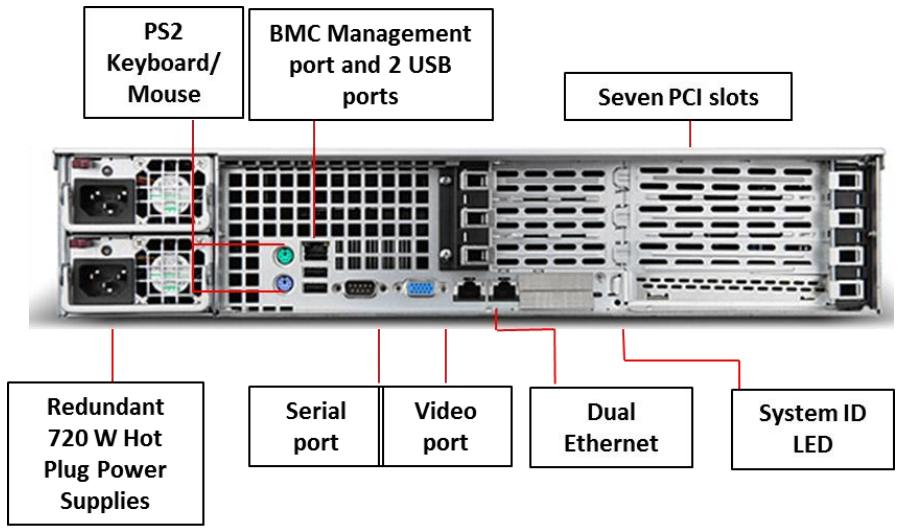



7 x PCI slots
12 memory DIMMs
Redundant 720 W Hot Plug Power Supplies
2 Processors
Hot Plug Redundant cooling fans
Power Button and LED indicators
12 3.5” HDD trays

Product inside view

1. 12 x ECC DDR3 1066/1333 MHz registered or unbuffered memory slots
2. 2 x Intel® Xeon® 5600 series processors supporting up to 6-cores per processor
3. 2 x 720 W 80 PLUS® gold-level efficient hot-swap power supplies (1+1 redundant)
4. Hot-plug redundant system cooling fans
5. Power button, System ID button, LED indicators (Power, HDD activity, LAN 1-2 status, system ID/status/fault)
6. Support for up to twelve 3.5” hot-plug SATA or SAS hard disk drives
7. 7 x PCI Express® slots with risers

Product Rear View



1. PS2 keyboard connector
2. PS2 Mouse connector
3. 2 x USB 2.0 connectors
4. Management IPMI LAN port
5. COM (Serial) connector
6. Video port
7. 2 x Gigabit LAN connector
8. ID LED

What's New

- New Intel® Xeon® processor 5600 series
- 2 x 720 W 80PLUS® gold-level efficient power supply units (1+1 redundant, hot-pluggable)
- DDR3 memory

Product Specifications

Processors and chipset

- Up to two Intel® Xeon® 5600 series processors
- Chipset: Intel® 5520

Memory[1]

- Memory capacity:
  - Registered DIMM: 2, 4, 8, 16 GB[2]
  - Unbuffered DIMM: 2, 4 GB
- Up to 192 GB registered DIMMs when fully populated with 2 DIMMs per channel in 12 slots
- Up to 48 GB unbuffered DIMMs when fully populated with 2 DIMMs per channel in 12 slots

Network Controllers

- Integrated Intel® 82576EB dual-port Gigabit Ethernet controllers (2 ports total)

[1] Mixed use of registered memory and unbuffered ECC memory not supported.
[2] 16 GB memory modules available by special request only

Storage
- Hard disk form factor: 3.5”
- Type: SAS/ SATA with hot plug capability
- HDD Capacity (enterprise level):
  - 3.5” SAS HDD capacity: 300 GB, 450 GB, 600 GB
  - 3.5” SATA HDD capacity: 250 GB, 500 GB, 1TB, 2TB
- 3.5” Maximum capacity:
  - Up to 24 TB SATA HDD (2 TB 3.5" x 12 HDDs)
  - Up to 7.2 TB SAS (600 GB 3.5” x 12 HDDs)

Storage controllers
- Integrated Intel® ICH10R Serial ATA host controller (six 3 Gb/s SATA ports) with RAID 0, 1, 5, 10 support
- Optional PCIe® 4-port/8-port and 16-port SAS RAID card (standard on some models)

Expansion slots
- Two full height PCI-E 2.0 x8 slots (with x4 link; left)
- One full height PCI-E 2.0 x16 slot (with x8 link; left)
- Two low profile PCI-E 2.0 x8 slots (with x4 link; right)
- One low profile PCI-E 2.0 x8 slot (right)
- One Acer Flex I/O (PCI-E 2.0 x8) slot (left)

Management
- Acer Smart Server Manager
- System ID LED buttons, System Health LED
- Acer Smart Console for server management and KVM over IP remote management

Deployment/serviceability
- Acer Smart Setup
- BIOS Update Tool
- IPMI Firmware Update Tool

Operating systems
- Windows Server® 2008
- Windows Server® 2008 R2
- Windows Server® 2003
- Red Hat® Enterprise Linux 5
- SUSE® Linux Enterprise Server 11
- VMware ESXi™ 4
- VMware ESX™ 4

Input/output interface

Front
- One Power/off button
- LED indicators: power, HDD activity, LAN port 1 through 2, and ID

Rear

- PS2 keyboard port
- PS2 mouse port
- Two USB 2.0 ports
- Two RJ-45 ports (dual Gigabit NIC) with activity and link indicators
- RJ-45 port (dedicated for management NIC) with activity and link indicators
- Serial (DB-9) port
- SVGA (DB-15) port
- ID LED

Optical drive

- External USB only

Chassis / Form factor

- 2U rack optimized

Power supply

- 1 Power Supply Standard, 2nd optional
- Up to 2 x 720 W 80 PLUS® Gold-level efficient hot-swap power supplies (1+1 redundant)

Regulatory compliant standards
EMC

- FCC (Class A)
- CE (Class A)
- BSMI (Class A)

Safety

- UL/cUL
- CB

Technical Specifications

Dimensions (with bezel)	438.4 mm (W) x 705 mm (D) x 88.1 mm (H) (17.3 x 27.8 x 3.5 inches)	
Form factor	2U rack mount (with cable arms included)	
Weight (approximate)	Maximum (All component slots and sockets fully populated)	38 kg (84 lbs.)
	Minimum (One HDD, power supply, and processor installed)	27.5 kg (60.6 lbs.)
BTU rating	Maximum	2456.64 BTU/hr.
System inlet temperature	Operating	0° - 35°C (50° - 95°F) at sea level with an altitude derating of 1°C per 305 m (1.8°F per 1000 ft.) above sea level to a maximum of 3050 m (10,000 ft.) with no direct sustained sunlight. Maximum rate of change is 10°C/hr. (18°F/hr.). The upper limit depends on the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
	Non-operating	-40° - 70°C (-40° - 158°F) maximum rate of change is 20°C/hr. (36°F/hr.).
Relative humidity (non-condensing)	Operating	8 - 90 % relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing
	Non-operating	5 - 95 % relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing
Emissions classification (EMC)	FCC rating	Class A
	Normative standards	EN55022, EN 61000-3-2, EN 61000-3-3, CISPR 22 Class A
Power supply	Rated steady-state power	720 W (at 100 VAC) 720 W (at 200 VAC)
	Maximum peak power	720 W (at 100 VAC) 720 W (at 200 VAC)

Standard Features

Processors

Intel Xeon Six-Core processor

X5675 (12 MB L3 cache, 3.06 GHz, 6.4 GT/s, DDR3-1333 MHz, 95 W)
X5650 (12 MB L3 cache, 2.66 GHz, 6.4 GT/s, DDR3-1333 MHz, 95 W)

Intel Xeon Quad-Core processor

E5620 (12 MB L3 cache, 2.40 GHz, 5.86 GT/s, DDR3-1066 MHz, 80 W)
L5630 (12 MB L3 cache, 2.13 GHz, 5.86 GT/s, DDR3-1066 MHz, 40 W)
E5606 (8 MB L3 cache, 2.13 GHz, 4.8 GT/s, DDR3-1066 MHz, 80 W)

Chipset

Intel® 5520

Memory[3]	**Type**	DDR3 1066/1333 MHz Registered memory DDR3 1066/1333 MHz Unbuffered ECC memory
	DIMM sockets	12
	Capacity	Registered DIMM: 2 / 4 / 8 / 16 GB[4] Unbuffered ECC DIMM: 2 / 4 GB
	Maximum capacity	Registered DIMM: 192 GB Unbuffered DIMM: 48 GB
Memory protection	ECC, Mirroring, Lockstep Mode, x4/x8 SDDC	
Network controller	Integrated dual Intel® 82576EB Gigabit Ethernet Controller (two ports)	

[3] Mixed use of registered memory and unbuffered ECC memory not supported.
[4] 16 GB memory modules available by special request only

Expansion slots

The primary I/O bus for the main board is PCIe Gen2. The following table lists the characteristics of the PCI-E bus segments.

PCI express Bus Segment Characteristics of PCI Express Topology

Expansion Slot #	# of slots	Type	Bus Width[1]	Vol.	Con. Width	Location	Length
PCIe	2	PCIe Gen 2	x4	3.3V	x8	Left	Full height
PCIe	1	PCIe Gen 2	x8	3.3V	x16	Left	Full height
PCIe	2	PCIe Gen 2	x4	3.3V	x8	Right	Low profile
PCIe	1	PCIe Gen 2	x8	3.3V	x8	Right	Low profile
Acer Flex I/O	1	PCIe Gen 2	x8	3.3V	x8	Left	

NOTE:

1. "Bus Width" refers to the number of physical electrical lanes running to a PCIe® connector.

2. Default bus assignment (in decimal). Inserting cards with PCI™ bridges may alter the actual bus assignment number.

3. Slots are enumerated differently based on the operating system. Microsoft® operating systems enumerate Device ID by bus starting from the lowest bus to the highest.

Storage controllers	Intel® 82801JR (ICH10R) I/O Controller Hub	
Integrated Serial ATA controller	**Simultaneous drive transfer channels**	6 channels
	Transfer rate synchronous (maximum theoretical)	3 GB/s per channel
	Data transfer method	non-RAID mode RAID mode
	Drive support	Serial ATA
	Data transfer modes	Legacy mode Combined mode
	Protocol	Serial ATA
	Feature	NCQ (Native Command Queuing) AHCI (Advanced Host Controller Interface)
	RAID levels supported	0, 1, 5, 10
	RAID features	• Supports multiple logical volumes • Supports setup through ROM based array configuration utility installation scripting **NOTE**: This controller requires the software RAID driver to support hot-plug functions.
	RAID OS support	Windows Server® 2008 Windows Server® 2008 R2 Red Hat® Enterprise Linux 5.3 Novell® SuSE® Linux Enterprise Server 11

Embedded dual-port Gigabit server adapter (Intel 82576EB) two port total	**Network interface**	10Base-T 100Base-TX 1000Base-TX	
	Compatibility	IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T IEEE 802.3u 100Base-TX	
	Data transfer method	Four lane (x4), 100 MHz PCI Express reference clock	
	Network transfer rate	10Base-T (half-duplex)	10 Mb/s
		10Base-T (full-duplex)	20 Mb/s
		100Base-TX (half-duplex)	100 Mb/s
		100Base-TX (full-duplex)	200 Mb/s
		1000Base-TX (half- and full-duplex)	2000 Mb/s
	Connector	RJ-45	
	Cable support	CAT 5e wire	
	Virtualization acceleration	Intel I/O Acceleration Technology Virtual Machine Device Queues (VMDq) PCI-SIG SR-IOV implementation	
	Manageability	NC-SI SMBus, PXE, iSCSI boot	

Storage

Maximum internal storage	**Hard disk drive**	• Up to 12 hot-pluggable 3.5" SATA/SAS HDD
	3.5” Maximum capacity	• Up to 24 TB SATA • Up to 7.2 TB SAS

Drive Support – Optical and Hard Disk Drive

HDD Bays 0-11

Optical Drive Support

Drive	Bay Supported	Required Controller
Optical Drive	External Only	USB 2.0

Hard Disk Drive Support

Drive	Quantity Supported	Bay Supported	Required Controller
3.5” SATA/SAS hard drive	Up to 12	0 - 11	Integrated SATA controller for up to 4 SATA HDD’s 4-port SAS RAID card for up to 4 SAS/SATA HDD’s 8-port SAS RAID card for up to 8 SAS/SATA HDD’s* 16-port SAS RAID card for up to 12 SAS/SATA HDD’s
*standard on some models **NOTE:** Transfer rates of drives are dependent on the maximum transfer rate supported by the host bus adapter (HBA) or controller.			

Tape Backup Drive Support

Drive	Bay Supported	Required Controller
LTO-3 1U SAS Rackmount (external) Tape Drive kit	External	SAS card
LTO-4 1U SAS Rackmount (external) Tape Drive kit	External	SAS card

Graphics	BMC chip embedded • 1280 x 1024 • 16 M colors • 16 MB video memory
Industry standard compliance	IPMI 2.0 Compliant (iBMC) APM 1.2 compliant SMBUS 2.0 SMBIOS 2.61 compliant ACPI v3.0b Compliant PCI-E.1.1for Gen 1and PCI-E 2.0 for Gen 2 PXE 2.1 support TPM cer1.2 compliance (through optional module) WOL support Microsoft® Windows Hardware Logo Program Requirements
Security	HDD carrier mechanical lock Administrator / User password Set-up password Removable device boot control Serial Interface control TPM controller (TPM v1.2 Compliant) (manufacturing option)
System cooling	• 2 x CPU heat sinks supporting Intel® Xeon® processors with up to TDP 95 W • Redundant/hot pluggable system fans (w/PWM control)
Operating systems and virtualization software support	Windows® Server® 2008 Windows® Server® 2008 R2 Windows® Server® 2003 R2 Red Hat® Enterprise Linux® 5.4 SUSE® Linux® Enterprise Server 11 VMware ESXi™ 4 VMware ESX™ 4

Server Management Utilities and Applications

Comprehensive management solutions deliver powerful and intuitive management features to simplify server set ups, configuration, management, monitoring, and reporting for the entire lifecycle of servers. Centralized administration and automatic management with remote access control free the IT resources and meet the complex business environment. Proactive monitoring and notification lead higher customers' satisfaction and higher levels of operational efficiency.

Smart Setup 2.0	Easy deployment via the latest version of Acer's Smart Setup. Smart Setup is available both in box as a driver packed installation DVD or a downloadable file to be put into a USB 2.0 device, and eases the deployment of Acer servers for any certified OS. Through its unique interface, users may select to have all the correct drivers be pre-deployed for the OS of their choosing, as well as setup hardware RAID devices, BMC settings (where available), and even clone the pre-settings to a bootable USB device to ease mass server deployments.
Smart Console	Web-based management utility to simplify system management with embedded iBMC, system monitoring and alerting, event handling, remote power control and KVM-over-IP. Smart Console is OS independent and offers virtual media through floppy, ODD, and removable disk.
Smart Server Manager v1.1	Offering 24-7 monitoring for system health and performance. Delivers proactive event management features including system event logging, event handling from e-mail and SNMP Trap (PET) alerting. Monitors onboard hardware, operating systems and virtual machines Allows remote control from KVM and Power control Satisfies management in web-based UI, role-based administration, and automated management scripts.
Intelligent manageability	• Automatic Server Recovery (ASR) • Integrated Management Log • Front and Rear Unit ID (UID) button/LED • BIOS Update tool for DOS supporting DOS and Windows OS • IPMI Firmware Update tool supporting DOS and Windows OS • Backplane firmware update tool, supporting DOS and Windows OS
Environment-friendly products and approach	Acer offers end-of-life product return, trade-in, and recycling programs in many geographic areas. Products returned to will be recycled, recovered or disposed of in a responsible manner.

Memory Support Specification

Registered Type	DDR3 1066/ 1333 MHz
	Capacity: 2, 4, 8, 16 GB
	Voltage: 1.5 V
	Maximum: 192 GB (16 GBx12 DIMMs)
Unbuffered Type	DDR3 1066/ 1333 MHz
	Capacity: 2, 4 GB
	Voltage: 1.5 V
	Maximum: 48 GB (4 GB x 12 DIMMs)
Memory protection	ECC, Mirroring, Sparing, Lockstep Mode, x4/x8 SDDC

Note: Mixing of registered memory and unbuffered ECC memory is not supported
16 GB memory modules available by special request only

Memory Population

The systems have twelve DIMM slots. Each CPU controls six slots. The DIMM slots support DDR3-1333 registered/unbuffered ECC memory modules.

- Each CPU has three memory channels (channel 1, 2 and 3)
- Each channel has 2 slots

The socket furthest from the CPU is socket A **(P1DIMM1A, P1DIMM2A, P1DIMM3A in blue color)**, while the nearest is socket B **(P1DIMM1B, P1DIMM2B, P1DIMM3B in black)**. For all memory modes, socket A in each channel needs to be populated first. If socket A is empty, socket B cannot be used. It is recommended that the higher rank and largest capacity DIMM be installed in slot A.

NOTE:

- In a single-processor server, memory modules are installed into the P1DIMMxx slots.
- The P2DIMMxx slots are enabled when a second CPU is installed on the main board.

For the system to function properly, DIMM modules must be installed following the slot sequence listed below. DIMM modules of the same type, size and manufacturer must be installed in the same DIMM colored slots.

- CPU 1 – populate DIMM slot P1DIMM1A first, followed by slots P1DIMM2A, P1DIMM3A, P1DIMM1B, P1DIMM2B, P1DIMM3B.
- CPU 2 – populate DIMM slot P2DIMM1A first, followed by slots P2DIMM2A, P2DIMM3A, P2DIMM1B, P2DIMM2B, P2DIMM3B.

DIMM slot notation illustrated in table below:

CPU1 (Rear CPU)	P1DIMM1B	P1DIMM1A	P1DIMM2B	P1DIMM2A	P1DIMM3B	P1DIMM3A
	Black	**Blue**	**Black**	**Blue**	**Black**	**Blue**

CPU2 (Front CPU)	P2DIMM1B	P2DIMM1A	P2DIMM2B	P2DIMM2A	P2DIMM3B	P2DIMM3A
	Black	**Blue**	**Black**	**Blue**	**Black**	**Blue**

Independent mode (please refer to the User Guide for more information)

- In this mode all memory is accessible and ECC protected

Single-processor configuration

Total Memory	P1 1B	P1 1A	P1 2B	P1 2A	P1 3B	P1 3A
2GB		2GB				
4GB		2GB		2GB		
6GB		2GB		2GB		2GB
8GB	2GB	2GB	2GB	2GB		
12GB	2GB	2GB	2GB	2GB	2GB	2GB
4GB		4GB				
8GB		4GB		4GB		
12GB		4GB		4GB		4GB
16GB	4GB	4GB	4GB	4GB		
24GB	4GB	4GB	4GB	4GB	4GB	4GB
8GB		8GB				
16GB		8GB		8GB		
24GB		8GB		8GB		8GB
32GB	8GB	8GB	8GB	8GB		
48GB	8GB	8GB	8GB	8GB	8GB	8GB
16GB*		16GB				
32GB*		16GB		16GB		
48GB*		16GB		16GB		16GB
64GB*	16GB	16GB	16GB	16GB		
96GB*	16GB	16GB	16GB	16GB	16GB	16GB

** 16 GB memory modules available by special request only*

Dual-processor configuration

	CPU1						CPU2					
Total Memory	P1 1B	P1 1A	P1 2B	P1 2A	P1 3B	P1 3A	P2 1B	P2 1A	P2 2B	P2 2A	P2 3B	P2 3A
4GB		2GB						2GB				
8GB		2GB		2GB				2GB		2GB		
12GB		2GB		2GB		2GB		2GB		2GB		2GB
16GB	2GB	2GB	2GB	2GB			2GB	2GB	2GB	2GB		
18GB	2GB	2GB	2GB	2GB	2GB	2GB		2GB		2GB		2GB
24GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB	2GB
8GB		4GB						4GB				
16GB		4GB		4GB				4GB		4GB		
24GB		4GB		4GB		4GB		4GB		4GB		4GB
32GB	4GB	4GB	4GB	4GB			4GB	4GB	4GB	4GB		
36GB	4GB	4GB	4GB	4GB	4GB	4GB		4GB		4GB		4GB
48GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB	4GB
16GB		8GB						8GB				
32GB		8GB		8GB				8GB		8GB		
48GB		8GB		8GB		8GB		8GB		8GB		8GB
72GB	8GB	8GB	8GB	8GB	8GB	8GB		8GB		8GB		8GB
96GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB	8GB
64GB*		16GB		16GB				16GB		16GB		
96GB*		16GB		16GB		16GB		16GB		16GB		16GB
128GB*	16GB	16GB	16GB	16GB			16GB	16GB	16GB	16GB		
144GB*	16GB	16GB	16GB	16GB	16GB	16GB		16GB		16GB		16GB
192GB*	16GB	16GB	16GB	16GB	16GB	16GB	16GB	16GB	16GB	16GB	16GB	16GB

** 16 GB memory modules available by special request only*

Mirroring mode:

- In mirroring mode, the memory contains a primary image and a copy of the primary image therefore the effective size of memory is reduced by one half.
- Channel 3 has no function in these modes.
- Follow the population rules described in independent mode.
- Mirroring mode needs the channel 1 & channel 2 DIMMs to be identical. DIMM slot populations within a channel do not have to be identical but the same DIMM slot location across channel 1 and channel 2 must be the same. DIMM1A and DIMM2A should be the same type, size and manufacturer. DIMM1B and DIMM2B memory should be the same type, size and manufacturer. DIMM1C and DIMM2C memory should be the same type, size and manufacturer.
- Same rules apply to CPU2.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

Lockstep mode:

- In Lockstep Channel Mode, each memory access is 128-bit data access that spans Channel 1 and Channel 2. This is done to support SDDC for DRAM devices with 8-bit wide data ports. The same address is used on both channels such that an address error on any channel is detectable.
- Lockstep Channel mode is the only RAS mode that supports x8 SDDC.
- Channel 3 has no function in these modes.
- Follow the population rules described in independent mode.
- Lockstep mode needs the channel 1 & channel 2 DIMMs to be identical. DIMM slot populations within a channel do not have to be identical but the same DIMM slot location across channel 1 and channel 2 must be the same. DIMM1A and DIMM2A should be the same type, size and manufacturer. DIMM1B and DIMM2B memory should be the same type, size and manufacturer. DIMM1C and DIMM2C memory should be the same type, size and manufacturer.
- Same rules apply to CPU2.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

Sparing mode:

- In sparing mode, if the system detects degrading memory, the data in the failed channel will be copied to the spare channel. The failed channel is then isolated and the spare channel becomes active. Any uncorrectable error detected before the isolation will cause the system to stop normal operation.
- Channel 3 is the spare channel. Therefore, the effective size will be reduced by one-third.
- Follow the population rules described in independent mode.
- Sparing mode needs all three channels to utilize identical DIMMs. 1A, 2A and 3A should be the same type, size and manufacturer. 1B, 2B and 3B memory should be the same type, size and manufacturer. 1C, 2C and 3C memory should be the same type, size and manufacturer.
- Same rule is applied to CPU2.
- Please refer to the User Guide for complete population rules for both single and dual processor configurations.

Memory Identification

Generally, there is memory information printed on the label of the DIMM, but different vendors may have different formats. For example:

4GB 2Rx4 PC3-10600R xx xx xxx

1. Density

- 2GB, 4GB, 8GB, 16GB
- Intel® Xeon® 5600 series processors support DIMMs organized by 1Gb, 2Gb or 4Gb DRAM chips

2. Rank

- 1R = Single Rank
- 2R = Dual Rank
- 4R = Quad Rank

3. Bit Organization

- This platform supports x4 and x8
- Note: It's not recommend to mix DIMMs with different bit organizations in one system

4. Speed

- PC3 – 6400 => DDR3- 800
- PC3 – 8500 => DDR3- 1066
- PC3 – 10600 => DDR3- 1333

Power Supply Specification

720W Power Supply							
Operational Input Voltage Range (Vrms)	100 to 240 VAC						
Frequency Range (Nominal) (Hz)	50 / 60						
Nominal Input Voltage (Vrms)	**100**	**120**	**208**	**200**	**220**	**230**	**240**
Max. Rated Output Wattage	720	720	720	720	720	720	720
Nominal Input Current (A rms)	8.46	6.97	3.80	3.87	3.74	3.5	3.29
Max. Rated Input Wattage Rating (Watts)	846.0	836.4	790.4	774.0	822.8	805.0	789.6
Max. Rated VA (Volt-Amp)	837.54	828.03	774.59	758.52	806.34	788.9	773.81
Efficiency (%) at Max. Rated Output Wattage	88.12	89.49	90.95	90.74	91.51	91.92	92.27
Power Factor	0.99	0.99	0.98	0.98	0.98	0.98	0.98
Leakage Current (mA)	0.17	0.19	0.29	0.31	0.35	0.37	0.41
Max. Inrush Current (A peak)	17.24	19.41	18.52	16.88	16.48	20.47	22.54
Max. Inrush Current Duration (mS)	4.62	4.58	4.61	4.62	4.64	4.63	4.64
Max. British Thermal Unit Rating (BTU/hr.)	2456.64	2456.64	2456.64	2456.64	2456.64	2456.64	2456.64

Hardware Key Options

CPU	• Intel® Xeon® 5600 series
HDD	• SAS 3.5”: 300 GB, 450 GB, 600 GB • SATA 3.5”: 250 GB, 500 GB, 1TB, 2 TB
Memory	• DDR3 1333 MHz Unbuffered ECC 2/ 4 GB • DDR3 1333 MHz Registered ECC 2/ 4/ 8/ 16GB
SAS HBA	• SAS HBA, internal 2-ports/external 2-ports, PCI-E x1 interface
SAS RAID	• MegaRAID SAS 9240-4i, 4 internal ports, PCIe x8, supporting RAID 0/1/10/5 • MegaRAID SAS 9260-8i, 8 internal ports, 512 MB PCIe x8, supporting RAID 0/1/10/5/50/6/60 • MegaRAID SAS 9260-16i, 16 internal ports, 512 MB PCIe x8, supporting RAID 0/1/10/5/50/6/60 • LSI® BBU07/ Battery Backup Unit for MegaRAID SAS 9260-8i and 9260-16i
Networking	• Gigabit CT Desktop Adapter, Gigabit Adapter10/100/1000 Mbps • Gigabit ET Server Adapter, Gigabit 10/100/1000 Mbps, PCIe, dual-port • Gigabit ET2 Server Adapter, Gigabit Adapter 10/100/1000 Mbps, PCIe, quad-port • Ethernet Server Adapter X520-DA2, 10 Gb, Dual ports, direct attach • Ethernet Server Adapter X520-LR1, single port, LR • Ethernet Server Adapter X520-SR1, single port, SR • Ethernet Server Adapter X520-SR2, dual ports, SR
Fibre Channel HBA	• Qlogic SANblade® QLE2460 single port fibre channel to PCI express host bus adapter, 1 ch, 8 Gb FC HBA, PCIe x8, single LC port (std & low-profile bracket) • Qlogic SANblade® QLE2462 dual ports fibre channel to PCI express host bus adapter, 2ch, 8 Gb FC HBA, PCIe x8, dual LC port (std & low-profile bracket)

Server Additional Options/Accessories

TPM	• TPM module (TPM 1.2)
Flash memory	• USB low profile flash memory for VMware embedded
Tape & Disk based backup	• LTO-3 1U SAS Rackmount (external) Tape Drive kit • LTO-4 1U SAS Rackmount (external) Tape Drive kit
Rackmount kits	• Sliding rails (Cable Management Arm option available)

Service and Support

Acer Servers offer a comprehensive service suite to take care of daily IT needs. Users can select the 1-year standard warranty or choose extended warranties and services[5].

The standard warranty for the AR180 F1 includes one year Parts coverage only.

Warranty repairs may be accomplished through the use of Customer Replacement Unit (CRU) parts. CRU parts include: Hot Plug Hard Drives and Hot Plug Power Supplies. These parts are designed for easy replacement without tools. Travel and labor charges may apply if customers decline to replace a CRU part.

In a continuing effort to improve the quality of our products, information in this document is subject to change without notice. Images shown are only representations of some of the configurations available for this model. Availability may vary depending on region.

Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, the Intel® logo, Pentium, Xeon® and Xeon® Inside are trademarks of Intel® Corporation.

© 2010. All rights reserved.

[5] Extension warranty services may vary by country. Please contact Acer authorized resellers for more information.

Acer Standard Server Models	**Part Number**
Acer AR180 LFF Models	
Acer AR180F1 Xeon E5606, 2x2GB DDR3 Unbuff, 1x 250GB 7200RPM Ent SATA HDD, Onboard SATA, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5500.041
Acer AR180F1 Xeon E5620, 2x4GB DDR3 Reg, No HDD, 8 Port 6G SAS RAID controller, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5500.042
Acer AR180F1 Xeon L5630, 2x4GB DDR3 Reg, No HDD, Onboard SATA, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5500.046
Acer AR180F1 Xeon X5650, 2x4GB DDR3 Reg, No HDD, 8 Port 6G SAS RAID controller, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5500.043
Acer AR180F1 Xeon X5675, 2x4GB DDR3 Reg, No HDD, 8 Port 6G SAS RAID controller, 1x720W 80+ Gold PSU (second optional), 2x GBit LAN onboard, Acer Smart Setup, Acer Smart Manager, UPS Power Cable, no Mouse, no KB, Rail kit (2U) Included	TK.R5500.045
Acer Key Options	**Part Number**
Acer CPU Heatsink	
Note: one heatsink required for each processor option kit	
Acer Intel CPU heat-sink (TDP 95W supported) for 2U rack	TC.34900.004
Acer Processor upgrade kits	
Note: one heatsink required for each processor option kit	
Note: all processors in a system must match	
Acer Intel® Xeon® processor E5606 (B-1) Kit	TC.32500.041
Acer Intel® Xeon® processor E5620 (B-1) Kit	TC.32500.024
Acer Intel® Xeon® processor L5630 (B-1) Kit	TC.32500.026
Acer Intel® Xeon® processor X5650 (B-1) Kit	TC.32500.022
Acer Intel® Xeon® processor X5675 (B-1) Kit	TC.32500.039
Acer Memory	
Note: cannot mix Unbuffered memory with Registered memory	
Note: please refer to "Memory Support" Section for details on configuring memory	
Acer Unbuffered Memory	
Acer 2GB DDR3-1333 Unbuffered Memory Kit (1 pc.)	TC.33100.035
Acer 4GB DDR3-1333Unbuffered Memory Kit (1 pc.)	TC.33100.037
Acer Registered Memory	
Acer 2GB DDR3-1333Registered Memory Kit (1 pc.)	TC.33100.029
Acer 4GB DDR3-1333Registered Memory Kit (1 pc.)	TC.33100.031
Acer 8GB DDR3-1333Registered Memory Kit (1 pc.)	TC.33100.042
Acer Storage	
Acer SATA Hot Plug LFF (3.5-inch) Midline (MDL) Drives	
Acer 250GB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.068
Acer 500GB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.066
Acer 1TB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.064
Acer 2TB 3Gb/s 7.2K 3.5-inch Enterprise SATA HDD Kit	TC.32700.062
Acer SAS Hot Plug LFF (3.5-inch) Enterprise Drives	
Acer 300GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.079
Acer 450GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.077
Acer 600GB 6Gb/s 15K 3.5-inch Enterprise SAS HDD Kit	TC.32700.075

Acer SAS Storage Controllers	
Acer 4-port (2 int., 2 ext.) 3Gb/s SAS HBA	TC.32300.008
Acer 4-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.028
Acer 8-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.034
Acer 16-port 6Gb/s SAS RAID Adapter (w/ mSAS-mSAS cable) Kit	TC.32300.042
Acer Battery Backup Kit for Cache module in 8port/16port SAS RAID Card	TC.34800.006
Acer Redundant Power Supply	
Acer 720 W Power Supply Module (GOLD level)	TC.33600.005
Acer Fibre Channel Storage Controllers	
Acer 8Gb/s Single Port Fibre Channel HBA Kit	TC.32300.024
Acer 8Gb/s Dual Port Fibre Channel HBA Kit	TC.32300.026
Acer Tape Drives	
Acer LTO-3 1U Rackmount (ext.) Tape Drive Kit	TC.34000.008
Acer LTO-4 1U Rackmount (ext.) Tape Drive Kit	TC.34000.009
Acer Additional Upgrades	
Acer Cable Management Arm (2U/4U) Kit (1000mm Rack required)	TC.33700.021
Acer Gigabit Single Port LAN Adapter Kit	TC.32200.011
Acer Gigabit Dual Port Server LAN Adapter Kit	TC.32200.009
Acer Gigabit Quad Port Server LAN Adapter Kit	TC.32200.010
Acer 10 Gigabit Dual Port (DA) Server LAN Adapter Kit	TC.32200.012
Acer 10 Gigabit Single Port (SR) Server LAN Adapter Kit	TC.32200.014
Acer 10 Gigabit Single Port (LR) Server LAN Adapter Kit	TC.32200.013
Acer 10 Gigabit Dual Port (SR) Server LAN Adapter Kit	TC.32200.015
Acer Operating Systems	
Windows Server Enterprise 2008	
Acer ROK Windows SVR 2008 R2 Enterprise (64bit,25Clt,EN)	TC.34400.035
Acer ROK MICROSOFT Win SVR 2008 64bit Ent R2 10 Clt EN W/COA W/CD/DVD ACER 1-8CPU	TC.34400.034
Windows Server Standard 2008	
Acer ROK MICROSOFT Win SVR 2008 64bit Std R2 5 Clt EN W/COA W/CD/DVD ACER 1-4CPU	TC.34400.033
Microsoft Windows SBS Server Standard	
Acer ROK MICROSOFT Win SBS 2008 64bit Std w/SP2 5 Clt EN W/COA W/CD/DVD ACER 1-4CPU	TC.34400.041
Acer ROK MICROSOFT Win SBS 2008 64bit Prem w/SP2 5 Clt EN W/COA W/CD/DVD ACER 1-4CPU	TC.34400.043
Windows Server Web Edition	
Acer ROK MICROSOFT Windows Server 2008 R2 Web(64bit,EN) Kit	TC.34400.075
Microsoft CAL's	
Acer Windows Server 2008 CAL EN (5 Device)	TC.34400.061
Acer Windows Server 2008 CAL EN (5 User)	TC.34400.063
Acer Windows SBS 2008 Prem CAL EN (5 Device)	TC.34400.065
Acer Windows SBS 2008 Prem CAL EN (5 User)	TC.34400.066
Acer Windows SBS 2008 Std CAL EN (5 Device)	TC.34400.067
Acer Windows SBS 2008 Std CAL EN (5 User)	TC.34400.068
Acer Services	
Acer Upgrade from 1 year Parts only to 1 year Parts/Labor/On-site Service	146.AD306.002
Acer Upgrade from 1 year Parts only to 3 years Parts/Labor/On-site Service	146.AD314.007